

ATTACHMENT A

Clean Replacement/New Claims

Following herewith is a clean copy of each new claim.

8. (NEW) A device for measuring the thickness of a layer of an integrated circuit in real time, said layer to be measured being deposited on an underlying layer, the measurement of the thickness of said layer to be measured being operated through an engraving reaction during a process of engraving the substrate of said integrated circuit incorporating these layers, said device comprising:

first means for tracking the advance of the engraving front of each integrated circuit layer by plotting the optical emission spectrum of the product of said engraving reaction in real time on at least one spectral component of said layer; and

second means for establishing a distribution of the optical emission amplitude of said engraving reaction product as a function of time;

for determining, on said distribution, the transition of the optical emission amplitude as said engraving front passes from said layer to be measured to said underlying layer; and

for computing the thickness of said layer to be measured, on the basis of said distribution and said transition, by correlating said transition to said distribution.

9. (NEW) The device of claim 8, further comprising:

a reactor for engraving said integrated circuit substrate, said reactor being fitted with an optical window for enabling the engraving product to be optically observed;

said first means comprising a monochromator having a wavelength centered on a characteristic value of said underlying layer for enabling amplitude values for the optical emission of the engraving product to be produced; and

said second means comprising means for computing the position of the time taken for the engraving front produced within said reactor to reach the underlying layer and the effective thickness of said layer to be measured by a linear combination linking said thickness to the time taken by said engraving front to reach said underlying layer.